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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/900,188	07/09/2001	W. Benjamin Payne		5756

7590                    09/29/2003  
Frank C. Price  
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[REDACTED]  
EXAMINER

FRANK, RODNEY T

ART UNIT	PAPER NUMBER
	2856

DATE MAILED: 09/29/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No.	Applicant(s)
	09/900,188	PAYNE, W. BENJAMIN
	Examiner Rodney T. Frank	Art Unit 2856

(11)

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### **Status**

- 1) Responsive to communication(s) filed on 17 July 2003.
- 2a) This action is FINAL.                    2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### **Disposition of Claims**

- 4) Claim(s) 2-6,8 and 9 is/are pending in the application.
  - 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 2-6,8 and 9 is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### **Application Papers**

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 09 July 2001 is/are: a) accepted or b) objected to by the Examiner.
 

..... Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) The proposed drawing correction filed on \_\_\_\_\_ is: a) approved b) disapproved by the Examiner.
 

If approved, corrected drawings are required in reply to this Office action.
- 12) The oath or declaration is objected to by the Examiner.

#### **Priority under 35 U.S.C. §§ 119 and 120**

- 13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) All b) Some \* c) None of:
    1. Certified copies of the priority documents have been received.
    2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.
- 14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
  - a) The translation of the foreign language provisional application has been received.
- 15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

#### **Attachment(s)**

1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)
3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____	6) <input type="checkbox"/> Other: _____

## DETAILED ACTION

### *Drawings*

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the coating painted on / film applied to a container must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

### *Claim Rejections - 35 USC § 103*

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 2-6 and 8-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brown et al. (U.S. Patent Number 6,260,414; hereinafter referred to as Brown). Brown discloses a cholesteric liquid crystal fluid level indicator that determines the level of a cooled liquid, such as beer, in a closed, opaque keg when placed in thermal contact with the exterior surface of the keg, by producing a color change that is a function of the liquid temperature when the liquid is within a predetermined temperature range, the indicator comprises a multiple level strip having a top transparent layer, liquid crystal layer, a black background layer and an attachment layer employing

a protected adhesive on its bottom surface for removeably attaching the strip to the keg, the instant invention employs a heat conducting adhesive on the attachment layer and for securing certain layers in the strip, such as the liquid crystal layer (see abstract).

With respect to claim 8, though the examiner admits that the device is used for a beer keg, it is still used on a storage tank and it does measure gas pressure changes within a tank (see column 12 lines 38 through 64 for the basic operation of the device where a color change in relation to gas and temperature is clearly disclosed) and this could obviously be adapted to that exact purpose by one of ordinary skill in the art. With this in mind, a method for tank ullage determination using temperature sensitive pigments, comprising said temperature sensitive pigments within color changing coatings applied to a tank outer surface of the wall of the tank, said coatings when changing color allowing indications imprinted within said color coatings to be read, said indication defining for a given future temperature the change in pressure of gas stored within the tank as determined by the common gas laws.

With respect to claim 9, figure 3 and column 11 line 44 through column 12 line 64 disclose coatings formed in distinct areas, each area sensitive to a particular color-changing temperature. Figure 5 shows, and column 10 lines 36 through 49 describe that the strip could comprise indicia, which could be of any type, including numbers, which would be useful for displaying information of the tank contents.

With respect to claim 2, though it is not specifically disclosed, the use of a "Painting" technique to apply the indicator as disclosed in the application would be well within the preview of one of ordinary skill in the art.

With respect to claim 3, a coating attached via film technology is disclosed.

With respect to claim 4, the areas are shown in figure 3 and column 11 line 44 through column 12 line 64 to be organized in groups, each group corresponding to a final temperature of the tank.

With respect to claim 5, the indications represent the amount of liquid and gas available compared to a filled tank at the same pressure.

With respect to claim 6, the numbers can represent any useful information, such as pressure, as disclosed in column 10 lines 36 through 49.

*Response to Arguments*

4. Applicant's arguments filed 17 July 2003 have been fully considered but they are not persuasive. The examiner feels that the Brown reference discloses the same device as that which the applicant is claiming. The applicant argues that the examiners interpretation of Brown is incorrect since the Brown reference works on the principle of temperature and thus does not measure gas pressure. The examiner points out that the applicant admits that the device itself (i.e. the cholesteric indicator) is not novel, but it's use, specifically with respect to utilizing gas law physics. The examiner feels that the device measures temperature. The applicant is trying to say that it uses gas law physics, which is not totally correct in that the gas law physics are only used by the indicia markings to display tank ullage. In other words, the device indicia uses gas law physics to create a "scale" by which temperature is converted to a psi reading for the indicator to show a ullage value. The device itself does not use gas law physics as it is, inherently, a temperature measuring device, as is well established in the art of such indicators. The claim even states that the device uses temperature sensitive pigments. The device senses temperature changes caused by the change of the volume in a pressurized tank. A keg is a pressurized tank whereby changes in volume cause a change in temperature. The type of indicia used on the device is irrelevant to the

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device operation, and can be chosen to fit the application desired. Therefore, the examiner feels that his rejections based on the prior art reference are valid with respect to the claims.

5. The examiner feels that the applicant is, however, disclosing a unique use for this device. The applicant provided various e-mails and documentation to support the "commercial success" and/or "Long felt but unsolved need" arguments, but these articles and e-mails are not substantial enough to not render the device obvious over the prior art. The examiner feels that if the applicant were to provide some further, more substantial proof of the long-standing need, then this argument would be more persuasive. As of now, the examiner is not convinced that the applicant's device is substantially inventive over the prior art.

*Conclusion*

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rodney T. Frank whose telephone number is (703) 306-5717. The examiner can normally be reached on M-F 9am -5:30p.m..

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hezron E. Williams can be reached on (703) 305-4705. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

RTF

September 9, 2003

*Hezron E. Williams*  
HEZRON WILLIAMS  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2800